

In the Claims

Claims 1-17 (canceled)

18 (currently amended). An IL-2 independent feline-derived T cell which is susceptible to infection by ~~FIV feline immunodeficiency virus (FIV)~~, wherein said cell does not require FIV infection for IL-2 independence.

19 (previously presented). The cell according to claim 18, wherein said cell is infected with an FIV virus.

20 (previously presented). The cell according to claim 19, wherein said FIV virus is a strain of FIV selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

21 (previously presented). The cell according to claim 19, wherein the subtype of said FIV virus is selected from the group consisting of subtypes A, B, C, and D.

22 (previously presented). The cell according to claim 19, wherein said cell expresses an FIV protein, or a fragment thereof.

23 (previously presented). The cell according to claim 22, wherein said FIV protein comprises FIV envelope glycoprotein, or a fragment thereof.

24 (previously presented). The cell according to claim 23, wherein said FIV envelope glycoprotein comprises the amino acid sequence shown in SEQ ID NO. 1.

25 (previously presented). The cell according to claim 19, wherein said cell is infected with two or more different strains of FIV.

26 (previously presented). The cell according to claim 25, wherein said FIV strains are selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

27 (previously presented). The cell according to claim 19, wherein said cell is treated in a manner to inactivate the FIV virus infecting said cell.

28 (previously presented). The cell according to claim 19, wherein said cell is treated in a manner to attenuate the FIV virus infecting said cell.

29 (previously presented). The cell according to claim 22, wherein said FIV protein is a chimeric protein comprising amino acid sequences of a protein from at least two different FIV subtypes.

30 (previously presented). The cell according to claim 29, wherein said chimeric protein comprises FIV envelope glycoprotein.

31 (currently amended). A vaccine composition that induces an immune response against two or more subtypes of FIV in an animal susceptible to infection by FIV, comprising an effective amount of an FIV immunogen to induce said immune response, wherein said FIV immunogen comprises an immunogen or immunogens derived from or comprising at least two different FIV subtypes.

32 (previously presented). The vaccine composition according to claim 31, wherein said immunogen is or immunogens are, independently, selected from the group consisting of synthetic FIV peptide, natural or recombinant FIV protein or an immunogenic fragment of said FIV protein, cell-free whole or partial FIV virus, and a cell infected with FIV virus.

33 (previously presented). The vaccine composition according to claim 32, wherein said FIV virus or FIV-infected cell is treated in a manner to inactivate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

34 (previously presented). The vaccine composition according to claim 32, wherein said FIV virus or FIV-infected cell is treated in a manner to attenuate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

35 (previously presented). The vaccine composition according to claim 31, wherein said at least two different FIV subtypes are selected from the group consisting of subtypes A, B, C, and D.

36 (previously presented). The vaccine composition according to claim 31, wherein said at least two different FIV subtypes are subtypes A and D.

37 (previously presented). The vaccine composition according to claim 31, wherein said FIV immunogen is or immunogens are from an FIV virus strain selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

38 (previously presented). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FeT-1C having ATCC accession number CRL 11968 infected with FIV.

39 (previously presented). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FeT-J having ATCC accession number CRL 11967 infected with FIV.

40 (previously presented). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FL-4 having ATCC accession number CRL 10772 infected with FIV.

41 (previously presented). The vaccine composition according to claim 32, wherein said cell is from the cell line designated FeT-1M having ATCC accession number CRL 10775 infected with FIV.

42 (previously presented). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line designated Shi/FeT-1C having ATCC accession number CRL 11976.

43 (previously presented). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line designated Bang/FeT-J having ATCC accession number CRL 11975.

44 (previously presented). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11968.

45 (previously presented). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11967.

46 (previously presented). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10772.

47 (previously presented). The vaccine composition according to claim 32, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10775.

48 (previously presented). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11976.

49 (previously presented). The vaccine composition according to claim 32, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11975.

50 (previously presented). The vaccine composition according to claim 31, wherein said animal is a cat.

51 (previously presented). The vaccine composition according to claim 32, wherein said FIV protein comprises FIV envelope glycoprotein, or an immunogenic fragment thereof.

52 (previously presented). The vaccine composition according to claim 51, wherein said FIV envelope glycoprotein comprises the amino acid sequence shown in SEQ ID NO. 1.

53 (previously presented). The vaccine composition according to claim 32, wherein said FIV protein is a chimeric protein comprising amino acid sequences of a protein from at least two different FIV subtypes.

54 (previously presented). The vaccine composition according to claim 53, wherein said chimeric protein comprises FIV envelope glycoprotein.

55 (previously presented). The vaccine composition according to claim 31, wherein said vaccine composition further comprises an adjuvant.

56 (previously presented). The vaccine composition according to claim 55, wherein said adjuvant is selected from the group consisting of threonyl muramyl dipeptide, alum, complete Freund's, and incomplete Freund's.

57 (previously presented). The vaccine composition according to claim 31, wherein said vaccine composition is administered parenterally, orally, or nasally.

58 (previously presented). The vaccine composition according to claim 57, wherein said parenteral administration is by subcutaneous, intraperitoneal, or intramuscular injection.

59 (previously presented). The vaccine composition according to claim 32, wherein said FIV-infected cell is present in a dose of from about 10^6 cells to about 10^8 cells.

60 (previously presented). The vaccine composition according to claim 32, wherein said FIV-infected cell is present in a dose of from about 5×10^6 cells to about 7.5×10^7 cells.

61 (previously presented). The vaccine composition according to claim 32, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.1 mg to about 5 mg.

62 (previously presented). The vaccine composition according to claim 32, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.2 mg to about 2 mg.

63 (previously presented). The vaccine composition according to claim 31, wherein said FIV immunogen comprises (a) cells infected with FIV of a first subtype and (b) cell-free whole or partial FIV of a second subtype, wherein said first and second subtype of said FIV are selected from the group consisting of A, B, C, and D, and wherein said first and second subtype of FIV are not the same.

64 (currently amended). A method for inducing an immune response against two or more subtypes of FIV in an animal susceptible to infection by FIV, comprising administering to said animal an effective amount of a vaccine composition comprising an FIV immunogen, wherein said FIV immunogen comprises an immunogen or immunogens ~~derived~~ from or comprising at least two different FIV subtypes.

65 (previously presented). The method according to claim 64, wherein said immunogen is or immunogens are, independently, selected from the group consisting of synthetic FIV peptide, natural or recombinant FIV protein or an immunogenic fragment of said FIV protein, whole or partial cell-free FIV virus, and a cell infected with FIV virus.

66 (previously presented). The method according to claim 65, wherein said FIV virus or FIV-infected cell is treated in a manner to inactivate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

67 (previously presented). The method according to claim 66, wherein said FIV virus or FIV-infected cell is treated in a manner to attenuate said FIV virus or the FIV virus infecting said cell prior to administration of said vaccine to said animal.

68 (previously presented). The method according to claim 64, wherein said at least two different FIV subtypes are selected from the group consisting of subtypes A, B, C, and D.

69 (previously presented). The method according to claim 64, wherein said at least two different FIV subtypes are subtypes A and D.

70 (previously presented). The method according to claim 64, wherein said FIV immunogen is or immunogens are from an FIV virus strain selected from the group consisting of FIV_{Dix}, FIV_{UK8}, FIV_{Bang}, FIV_{Aom1}, FIV_{Aom2}, FIV_{Pet}, and FIV_{Shi}.

71 (previously presented). The method according to claim 65, wherein said cell is from the cell line designated FeT-1C having ATCC accession number CRL 11968 infected with FIV.

72 (previously presented). The method according to claim 65, wherein said cell is from the cell line designated FeT-J having ATCC accession number CRL 11967 infected with FIV.

73 (previously presented). The method according to claim 65, wherein said cell is from the cell line designated FL-4 having ATCC accession number CRL 10772 infected with FIV.

74 (previously presented). The method according to claim 65, wherein said cell is from the cell line designated FeT-1M having ATCC accession number CRL 10775 infected with FIV.

75 (previously presented). The method according to claim 65, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line designated Shi/FeT-1C having ATCC accession number CRL 11976.

76 (previously presented). The method according to claim 65, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line designated Bang/FeT-J having ATCC accession number CRL 11975.

77 (previously presented). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11968.

78 (previously presented). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11967.

79 (previously presented). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10772.

80 (previously presented). The method according to claim 65, wherein said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 10775.

81 (previously presented). The method according to claim 65, wherein said cell is infected with FIV_{Shi} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11976.

82 (previously presented). The method according to claim 65, wherein said cell is infected with FIV_{Bang} and said cell is from a cell line having the identifying characteristics of the T cell line deposited under ATCC accession number CRL 11975.

83 (previously presented). The method according to claim 64, wherein said animal is a cat.

84 (previously presented). The method according to claim 65, wherein said FIV protein comprises FIV envelope glycoprotein, or an immunogenic fragment thereof.

85 (previously presented). The method according to claim 84, wherein said FIV envelope glycoprotein comprises the amino acid sequence shown in SEQ ID NO. 1.

86 (previously presented). The method according to claim 64, wherein said FIV protein is a chimeric protein comprising amino acid sequences of a protein from at least two different FIV subtypes.

87 (previously presented). The method according to claim 86, wherein said chimeric protein comprises FIV envelope glycoprotein.

88 (previously presented). The method according to claim 64, wherein said vaccine composition further comprises an adjuvant.

89 (previously presented). The method according to claim 88, wherein said adjuvant is selected from the group consisting of threonyl muramyl dipeptide, alum, complete Freund's, and incomplete Freund's.

90 (previously presented). The method according to claim 64, wherein said vaccine composition is administered parenterally, orally, or nasally.

91 (previously presented). The method according to claim 90, wherein said parenteral administration is by subcutaneous, intraperitoneal, or intramuscular injection.

92 (previously presented). The method according to claim 65, wherein said FIV-infected cell is administered in a dose of from about 10^6 cells to about 10^8 cells.

93 (previously presented). The method according to claim 65, wherein said FIV-infected cell is administered in a dose of from about 5×10^6 cells to about 7.5×10^7 cells.

94 (previously presented). The method according to claim 65, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.1 mg to about 5 mg.

95 (previously presented). The method according to claim 65, wherein said cell-free whole or partial FIV virus is present in a dose from about 0.2 mg to about 2 mg.

96 (previously presented). The method according to claim 64, wherein said vaccine composition is administered to said animal at least two times with an interval of at least one week between each administration.

97 (previously presented). The method according to claim 64, wherein said FIV immunogen comprises (a) cells infected with FIV of a first subtype and (b) cell-free whole or partial FIV of a second subtype, wherein said first and second subtype of said FIV are selected from the group consisting of A, B, C, and D, and wherein said first and second subtype of FIV are not the same.

98-107 (canceled).